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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,993	09/05/2003	Keith A. Bello	TUC920030089US1	9348
49080	7590	03/06/2008		
DALE F. REGELMAN CHANDLER & UDALL, LLP 4801 E. BROADWAY BLVD #400 TUCSON, AZ 85711-3609			EXAMINER WHIPPLE, BRIAN P	
			ART UNIT 2152	PAPER NUMBER
			NOTIFICATION DATE 03/06/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/656,993	<b>Applicant(s)</b> BELLO ET AL.	
	<b>Examiner</b> Brian P. Whipple	<b>Art Unit</b> 2152	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-21 are pending in this application and presented for examination.

### ***Response to Arguments***

2. Applicant's arguments filed 12/27/07 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lisiecki et al. (Lisiecki), U.S. Publication No. 2002/0147774 A1, in view of Ravi et al. (Ravi), U.S. Patent No. 6,292,834 B1, further in view of Pittelkow et al. (Pittelkow), U.S. Patent No. 7,043,663 B1, and further in view of what was well known in the art.

5. As to claim 1, Lisiecki discloses a method to write information to two servers (Fig. 2; Abstract, ln. 1-7), comprising the steps of:

writing a host computer file to said second device disposed in said first server (Fig. 3; [0046], ln. 5-18);

queuing a copy job, wherein said copy job comprises copying said host computer file to said second server (Fig. 2; [0046], ln. 14-20).

Lisiecki is silent on said devices being virtual host devices and said server being a virtual tape server;

supplying a data storage and retrieval system comprising a host computer, a first virtual controller, a second virtual controller, a first virtual server comprising a first adjustable aggregate bandwidth, and a second virtual server, wherein said first virtual controller comprises a first virtual host device and a first virtual copy device, and wherein said second virtual controller comprises a second virtual host device and a second virtual copy device, and wherein said first virtual server comprises a third virtual host device and a third virtual copy device, and wherein said second virtual server comprises a fourth virtual host device and a fourth virtual copy device, wherein said host computer communicates with said first virtual server via said first virtual host device and said third virtual host device, wherein said host computer communicates with said second virtual server via said second virtual host device and said fourth virtual host device, and wherein said first virtual server communicates with said second virtual server via said first virtual copy device, said second virtual copy device, and said fourth virtual copy device;

determining the age of said queued copy job;

setting an age threshold;

determining if the age of said queued copy job is greater than said age threshold;

operative if the age of said queued copy job is greater than said age threshold, decreasing said first adjustable aggregate bandwidth.

Ravi discloses a server comprising a first adjustable aggregate bandwidth (Abstract, ln. 1-13);

determining the age of said queued copy job (Fig. 5A, item 513; Abstract, ln. 8-13; the playtime is the age of the job being copied from the server to the client);

setting an age threshold (Abstract, ln. 8-13);

determining if the age of said queued copy job is greater than said age threshold (Abstract, ln. 8-13);

operative if the age of said queued copy job is greater than said age threshold, decreasing said first adjustable aggregate bandwidth (Abstract, ln. 1-13).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lisiecki by determining the age of a queued job, setting an age threshold, and decreasing bandwidth as taught by Ravi in order to avoid buffer overrun (Ravi: Abstract, ln. 24-27).

Lisiecki and Ravi are silent on said devices being virtual host devices and said server being a virtual tape server;

supplying a data storage and retrieval system comprising a host computer, a first virtual controller, a second virtual controller, a first virtual server, and a second virtual server, wherein said first virtual controller comprises a first virtual host device and a first virtual copy device, and wherein said second virtual controller comprises a second virtual host device and a second virtual copy device, and wherein said first virtual server

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comprises a third virtual host device and a third virtual copy device, and wherein said second virtual server comprises a fourth virtual host device and a fourth virtual copy device, wherein said host computer communicates with said first virtual server via said first virtual host device and said third virtual host device, wherein said host computer communicates with said second virtual server via said second virtual host device and said fourth virtual host device, and wherein said first virtual server communicates with said second virtual server via said first virtual copy device, said second virtual copy device, and said fourth virtual copy device.

However, Pittelkow discloses supplying a data storage and retrieval system comprising a host computer, a first virtual controller, a second virtual controller, a first virtual server comprising a first adjustable aggregate bandwidth, and a second virtual server, wherein said first virtual controller comprises a first virtual host device and a first virtual copy device, and wherein said second virtual controller comprises a second virtual host device and a second virtual copy device, and wherein said first virtual server comprises a third virtual host device and a third virtual copy device, and wherein said second virtual server comprises a fourth virtual host device and a fourth virtual copy device, wherein said host computer communicates with said first virtual server via said first virtual host device and said third virtual host device, wherein said host computer communicates with said second virtual server via said second virtual host device and said fourth virtual host device, and wherein said first virtual server communicates with said second virtual server via said first virtual copy device, said second virtual copy device, and said fourth virtual copy device (Abstract; Fig. 1; Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lisiecki and Ravi by enabling storage network communications as claimed above and as taught by Pittelkow in order to backup data redundantly in a network.

Official notice (see MPEP 2144.03) is taken that virtual tape storage is well known in the art and that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lisiecki, Ravi, and Pittelkow by using virtual tape storage servers and host devices as is known in the art in order to backup data in a network.

6. As to claim 2, Lisiecki and Ravi disclose the invention substantially as in parent claim 1, including operative if the age of said queued copy job is not greater than said age threshold, restoring said first adjustable aggregate bandwidth to a pre-determined nominal value (Abstract, ln. 13-18).

7. As to claim 3, the claim is rejected for the same reasons as claim 1 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Lisiecki and Ravi to a second system as a designing characteristic of the networking industry is applying known techniques to a plurality of systems. The benefits of Lisiecki's and Ravi's teachings, as discussed for claim 1 above, are the same for a second system.

8. As to claim 4, the claim is rejected for the same reasons as claims 2-3 above.

9. As to claims 5-6, 9, 11-14, and 16-20, the claims are rejected for the same reasons as claim 1 above.

10. As to claim 7, the claim is rejected for the same reasons as claims 1 and 3 above.

11. As to claims 8 and 21, the claims are rejected for the same reasons as claims 1-3 above.

12. As to claims 10 and 15, the claims are rejected for the same reasons as claim 2 above.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not



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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Whipple whose telephone number is (571)270-1244. The examiner can normally be reached on Mon-Fri (8:30 AM to 5:00 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian P. Whipple  
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Examiner, Art Unit 2152  
2/25/08

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Supervisory Patent Examiner, Art Unit 2152